Notice of Allowability	Application No.	Applicant(s)	
	10/505,336	BRANDEN ET AL.	
	Examiner	Art Unit	
	FRANK W. LU	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendments filed on May 11, 2010*.

2. ☒ The allowed claim(s) is/are *35-40 and 42-44*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *6/15/2010* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Frank W Lu / Primary Examiner, Art Unit 1634	June 18, 2010

DETAILED ACTION

Reasons for Allowance

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. H. James Voeller (Reg. No. 48,015) on June 15, 2010.

2. The application has been amended as follows:

In the specification:

Change "e g" in the abstract to "e.g.,".

In the claims:

Cancel claim 41.

35. (Currently amended) A method for the production of a biomolecular complex, said method comprising the steps of:

i) [synthesizing a molecular combination of] reacting a first functional element (FE_1) [and] with a first binding element (BE_1), BE_1 comprising a nucleotide sequence that binds to a first target molecule or area (T_1), and forming a stock solution [of the molecular combination] FE_1-BE_1,

ii) [synthesizing a molecular combination of] reacting FE_1 [and] with a second binding element (BE_2), BE2 comprising a nucleotide sequence that binds to a second target molecule or area (T_2), and forming a stock solution [of the molecular combination] FE_1-BE_2,

iii) [synthesizing a molecular combination of] reacting a second functional element (FE_2) [and] with BE_1, and forming a stock solution [of the molecular combination] FE_2-BE_1,

iv) [synthesizing a molecular combination of] reacting FE_2 [and] with BE_2, and forming a stock solution [of the molecular combination] FE_2-BE_2,

v) [synthesizing] reacting a first linker molecule (L) with [comprising] T_1[,] and T_2 [and a nucleic acid connecting T_1 and T_2] and forming T_1-L-T_2, L being a nucleic acid and having a pre-determined physical property, and

vi) reacting the [molecular combination] stock solution of step[s] i) and the stock solution of step iv), or the [molecular combination] stock solution of step[s] ii) and the stock solution of step iii), with T_1-L-T_2 [L to obtain self-assembly of the molecular combinations in a desired configuration in solution, to produce] and producing said biomolecular complex wherein said biomolecular complex is

$$\begin{array}{cc} FE_1\text{-}BE_1 & BE_2\text{-}FE_2 \\ | & | \\ T_1\text{-}L\text{-}T_2 & \end{array} \quad \text{or} \quad \begin{array}{cc} FE_1\text{-}BE_2 & BE_1\text{-}FE_2 \\ | & | \\ T_2\text{-}L\text{-}T_1 & \end{array}$$

and, in said biomolecular complex, each of FE_1 and FE_2 is attached to one of BE_1 and BE_2, [each of] BE_1 is bound to T_1 and BE2 is bound to [one of T_1 and] T_2, and T_1 and T_2 are connected to each other by L [(FE_1/FE_2)-(BE_1/BE_2):T_1-L-T_2: (BE_1/BE_2)-(FE_1/FE_2)].

36. (Currently amended) The method according to claim 35, further comprising [synthesizing at least one] adding a second linker molecule (l) that connects [(FE_1/FE_2 with BE_1/BE_2)] FE_1 or FE_2 with BE_1 or BE_2 into steps i) to iv) such that, [and reacting l in step vi) to produce a] in said biomolecular complex, [wherein at least one] each of FE_1 and FE_2 are attached to [at least] one of BE_1 and BE_2 through 1 [(FE_1/FE_2)-l-(BE_1/BE_2)].

37. (Currently amended) The method according to claim 36, wherein [the second linker molecule] l is a nucleic acid polymer having a pre-determined physical property.

38. (Currently amended) The method according to claim 35, further comprising [repeating] performing steps i) - iv) [for] using functional elements other than FE_1 and FE_2, and binding elements other than BE_1 and BE_2, and forming a library of separate stock solutions [of the molecular combinations of steps i) - iv), wherein in step vi) L is reacted with the at least two of the molecular combinations from the library of stock solutions].

39. (Currently amended) A method for the production of a library comprising different biomolecular complexes, said method comprising:

(a) providing separate solutions of different first functional elements [(FE_1)], each first functional element (FE_1) from said first functional elements adapted to specifically attach to a first binding element (BE_1), and BE_1 adapted to specifically attach to a first target molecule or area (T_1),

(b) providing separate solutions of different second functional elements [(FE_2)], each second functional element (FE_2) from said second functional elements adapted to specifically attach to a second binding element (BE_2), and BE_2 adapted to specifically attach to a second target molecule or area (T_2),

(c) providing separate solutions of said binding elements BE_1 and BE_2, each [binding element] of BE_1 and BE_2 comprising a nucleotide sequence or peptide nucleic acid (PNA) sequence,

(d) providing separate solutions of linker molecules [(L)], each linker molecule (L) from said linker molecules comprising a nucleic acid molecule having a distinct physical property,

(e) reacting one FE_1 from said first functional elements of step (a) with [at least] one of BE_1 and BE_2 of step (c) [to form] and forming a [first functional element/binding element combination FE_1-(BE_1/BE_2)] complex FE_1-BE_1 or FE_1-BE_2,

(f) reacting one FE2 from said second functional elements of step (b) with [at least] one of BE_1 and BE_2 of step (c), [other than] different from the binding element used in step (e), [to form] and forming a [second functional element/binding element combination FE_2-(BE_1/BE_2)] complex FE_2-BE_2 or FE_2-BE_1,

(g) [optionally, separately repeating] performing steps (e) and (f) [for] using each of said first functional elements and said second functional elements and forming different FE_1-BE_1 or FE_1-BE_2 and different FE_2-BE_2 or FE_2-BE_1,

(h) reacting each linker molecule L from said linker molecules from step (d) with T_1 and T_2 and forming T_1-L-T_2, [each of] T_1 [and T_2] comprising a target sequence capable of specific binding to BE_1 and T_2 comprising a target sequence capable of specific binding to BE_2 [of steps (e) and (f)],

(i) reacting [FE_1-(BE_1/BE_2) and FE_2-(BE_1/BE_2)] FE_1-BE_1 or FE_1-BE2 and FE2-BE2 or FE2-BE1 of steps (e) and (f) with [each linker molecule L reacted with T_1 and T_2 of step (h) to form a combination of functional elements attached to binding elements and target molecules FE_1-(BE_1/BE_2):T_1-L-T_2:(BE_1/BE_2)-FE_2] T_1-L-T_2 and producing a biomolecular complex wherein said biomolecular complex is

$$\begin{array}{cc} FE_1\text{-}BE_1 & BE_2\text{-}FE_2 \\ | & | \\ T_1\text{-}L\text{-}T_2 & \end{array} \quad \text{or} \quad \begin{array}{cc} FE_1\text{-}BE_2 & BE_1\text{-}FE_2 \\ | & | \\ & T_2\text{-}L\text{-}T_1 \end{array}$$

, and

(j) [repeating] performing steps (h) and (i) using said different FE_1-BE_1 or FE_1-BE_2 and said different FE_2-BE_2 or FE_2-BE1 from step (g) and producing a library of different biomolecular complexes, wherein, in each of said different biomolecular complexes, each of FE_1 and FE_2 is attached to one of BE_1 and BE_2, BE_1 is bound to T_1 and BE2 is bound to T_2, and T_1 and T_2 are connected to each other by L [in order to form a library of combinations of functional elements attached to binding elements and target molecules, to produce said biomolecular complex comprising FE_1 and FE_2, wherein: FE_1 is specifically attached to a binding element, and the binding element is specifically attached to T_1, FE_2 is specifically attached to a binding element, and the binding element is specifically attached to T_2, and T_1 and T_2 are attached by at least one linker molecule (L)].

42. (Currently amended) The method according to claim 39, wherein FE_1 and FE_2 are chosen among a natural or synthetic peptide, a lipid, a glycoprotein, a receptor ligand, and a fraction thereof[, or any combination thereof].

43. (Currently amended) The method according to claim 39, further comprising adding a second linker molecule (l) [wherein in at least] into one of steps e) and f) [at least one] such that, in each of said different biomolecular complexes, each of FE_1 and FE_2 is attached to BE1 or BE2 through [a second linker molecule (i) (FE_1/FE_2)-l-(BE_1/BE_2)] l.

44. (Currently amended) The method according to claim 43, wherein [the second linker molecule] l is a nucleic acid polymer having a pre-determined physical property.

3. The following is an examiner's statement of reasons for allowance:

Claims 35-40 and 42-44 are allowable in light of applicant's amendments filed on May 11, 2010 and the examiner's amendments. The rejections under 35 U.S.C. 112, second paragraph

have been withdrawn in view of applicant's amendments filed on May 11, 2010 and the examiner's amendments. The examiner's amendments in claims 35 and 39 are supported by pages 8 and 9 of the specification and Figure 1. The closest prior art in the record is Hogan *et al.* (US Patent No. 5,451,503, published on September 19, 1995). This prior art does not teach or suggest steps i) to v) of claim 35 and steps (e) to (h) and (j) of claim 39. This prior art either alone or in combination with the other art in the record does/do not teach or reasonably suggest a method for the production of a biomolecular complex and a method for the production of a library comprising different biomolecular complexes which comprise all limitations recited in claims 35 and 39.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

4. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CAR § 1.6(d)). The CM Fax Center number is (571)273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Lu, Ph.D., whose telephone number is (571)272-0746. The examiner can normally be reached on Monday-Friday from 9 A.M. to 5 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Nguyen, can be reached on (571)272-0731.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Frank W Lu /
Primary Examiner, Art Unit 1634
June 18, 2010